

IN THE SPECIFICATION:

Please replace the paragraph running from page 2, line 16, through page 3, line 2, with the following.

As a result, it would be advantageous if the data stream to be transmitted could be encoded by changing a shape of the UWB pulse rather than a position of the UWB pulse as with conventional systems. For example, if the UWB pulses had two possible shapes, a single time frame could be used encode a single bit of data, rather than the two time frames (i.e., early and late) that would be required by a PPM system. In the present UWB communications system, and related co-pending application Serial No. 09/209,460 filed May 14, 1998, entitled ULTRA WIDE BANDWIDTH SPREAD SPECTRUM COMMUNICATIONS SYSTEM (Attorney Docket No. 10188-0001-8), now issued as United States Patent No. 6,700,939, the entire contents of which being incorporated herein by reference, information is carried by the shape of the pulse, or the shape in combination with its position in the pulse-sequence.

Please replace the paragraph on page 3, lines 3-13, with the following.

Conventional techniques for generating pulses include a variety of techniques, for example, networks of transmission lines such as those described in co-pending application Serial No. 09/209,460 filed May 14, 1998, entitled ULTRA WIDE BANDWIDTH SPREAD SPECTRUM COMMUNICATIONS SYSTEM (Attorney Docket No. 10188-0001-8) now issued as United States Patent No. 6,700,939. One of the problems associated with this technique is that the transmission lines take up sizeable space and accordingly, are not amenable to integration on a monolithic integrated circuit.

Given that a key targeted use of UWB systems is for small, handheld mobile devices such as personal digital assistants (PDAs) and mobile telephones, space is at a premium when designing UWB systems. Furthermore, it is highly desirable to integrate the entire radio onto a single monolithic integrated circuit in order to meet the cost, performance, and volume-production requirements of consumer electronics devices.

Please replace the paragraph on page 14, lines 16-20, with the following.

Furthermore, such inadequacies get progressively worse as the bandwidth moves away from $.25f_c$ and toward $2f_c$. A key attribute of the exemplary wavelets (or e.g., those described in ~~co-pending U.S. Patent Application Serial No. 09/209,460~~ United States Patent No. 6,700,939) is that the parameters are chosen such that neither f nor h in Equation 2 above has a DC component, yet f and h exhibit the required wide relative bandwidth for UWB systems.

Please replace the paragraph on page 15, lines 1-4, with the following.

Similarly, as a result of $B > .25f_c$, it should be noted that the matched filter output of the UWB signal is typically only a few cycles, or even a single cycle. For example, the parameter n in Equation **Error! Reference source not found.** above may only take on low values (e.g., such as those described in ~~co-pending U.S. Patent Application Serial No. 09/209,460~~ United States Patent No. 6,700,939).

COMMENTS AND RESPONSE

In view of the comments below, Applicants respectfully requests that the Examiner reconsider the present application including rejected claims, as amended, and withdraw the claim rejections.

Specification

By this response the applicants have amended the specification to update the status of the related application mentioned in the specification by filling in all known serial numbers.

Information Disclosure Statement

The Examiner has noted that the information disclosure statement filed on November 6, 2000 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the patent number should be provided instead of the application number.

Applicants observe that at the time the information disclosure statement was filed, none of these applications were issued as patents. However, Applicants accept that this information disclosure statement is simply being placed in the file. The information disclosure statement filed on May 27, 2004, duplicates the November 6, 2000, information disclosure statement, including patent numbers where such are appropriate.

Claim Rejections – 35 USC § 102

The Examiner has rejected claims 1-8 and 22-24 under 35 U.S.C. 102(e) as being allegedly anticipated over United States Patent No. 6,735,238 to McCorkle.

Along with this response, Applicant provides a declaration under 37 CFR 1.132 indicating that any relevant invention disclosed but not claimed in United States Patent

No. 6,735,238 was derived from the inventor in the present case, and thus is not an invention "by another." Applicants note in particular that United States Patent No. 6,735,238 and the present application have the same inventive entity, i.e., John W. McCorkle.

Based on at least the arguments above, the Applicant request the Examiner to withdraw the rejection of claims 1-8 and 22-24 under 35 U.S.C. 102(e) as being allegedly anticipated over McCorkle.

Double Patenting

The Examiner has rejected claims 1 and 22 under the judicially created doctrine of double patenting over claim 1 of United States Patent No. 6,735,238 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

Along with this response Applicant submits a Terminal Disclaimer to obviate this double patenting rejection. Therefore, based on this Terminal Disclaimer, Applicant requests the Examiner to withdraw the rejection of claims 1 and 22 under the judicially created doctrine of double patenting.

Allowable Subject Matter

The Examiner has objected to claims 9-21 and 25-30 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

For the reasons given above, claims 1-8 and 22-24 are allowable. Claims 9-21 depend variously from claims 1, 7, and 8, and are allowable for at least the reasons given